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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,085	06/20/2003	Mukesh K. Jain	FA/254	7055

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GORE ENTERPRISE HOLDINGS, INC.
551 PAPER MILL ROAD
P. O. BOX 9206
NEWARK, DE 19714-9206

EXAMINER	
MATZEK, MATTHEW D	
ART UNIT	**PAPER NUMBER**
1771	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/601,085	JAIN ET AL.	
	Examiner	Art Unit	
	Matthew D. Matzek	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 10-68* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 10-68* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Amendment

1. The amendment dated 11/16/2006 has been fully considered and entered into the Record. Claim 9 has been canceled. Claims 1, 10-14, 24, 41 and 53 have been amended. New claims 66-68 have been added to the application. The amended and new claims contain no new matter. Claims 1-8 and 10-68 are currently pending.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-8 and 10-68 are rejected under 35 U.S.C. 103(a) as obvious over Maples (US 6,395,383) in view of Kershner et al. (US 4,824,916).

a. Maples discloses a selectively permeable protective covering capable of transmitting high quantities of water vapor while also being capable of significantly restricting the passage of dangerous chemicals (Abstract). This invention is directed to use as a protective garment or associated accessories (Abstract). In an embodiment of this invention the chemical protective covering comprises two water vapor permeable polytetrafluoroethylene (PTFE) substrates and a polyamine polymer with amine-acid moieties specifically involving H_2SO_4 (col. 4, lines 57-65). The substrates may be woven, nonwoven or knit fabrics (col. 7, lines 38-40). The third substrate may also be made of polyethylene, polysulfone, polypropylene, polyamides, and the like (col. 7, lines 37-45). The acidic species of the polyamine polymer amine-acid moieties are preferably multi-protic and may include sulfuric and sulfurous acid (col. 9, lines 5-20). The acidic species may also be covalently bound within the polyamine polymer (col. 9, lines 12-16).

The polyamine polymer will be made to form a selectively permeable sheet or layer, which in some embodiments, may be part of a composite sheet with at least one water vapor permeable substrate (col. 10, lines 12-15). A laminate construction of the applied invention is depicted in Figure 19. The applied article has a water vapor transmission rate greater than 2000 g/(m^2*day) (col. 4, lines 40-44). Maples is silent as to the use of aromatic sulfonated polymers in the creation of a protective article.

b. Kershner et al. teach the use of water-insoluble, cross-linked sulfonated aromatic polyamides to create a coating (Title and Abstract). The applied invention may be used to create membranes for gas separation and solvent dehydration (col. 2, lines 65-67). The sulfonated aromatic polyamides of Kershner et al. have pendant groups comprising sulfonic acid groups in anionic form (col. 6, lines 36-43). The ionically cross-linked polymers have special utility as a water resistant coating (col. 9, lines 26-31) and may be laminated to a porous substrate (col. 10, lines 50-55). This applied patent fails to teach the instantly claimed sulfonic acid equivalent weight. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the sulfonated aromatic polymer of Kershner et al. with the instantly claimed sulfonic acid equivalent weight, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. It would have also been obvious to have discovered the instantly claimed sulfonic acid equivalent weights as Kershner et al. and Applicant use the sulfonated aromatic polymeric layer to impart water resistance while being vapor permeable (pages 4 and 5 of Applicant's Specification).

c. Since Maples and Kershner et al. are from the same field of endeavor, (i.e. selectively permeable articles), the purpose disclosed by Kershner et al. would have been recognized in the pertinent art of Maples.

d. The field of personal garments and outdoor articles is replete with waterproof and breathable articles. Therefore it would have been obvious to one of ordinary skill in the art to have modified the protective article of Maples to also be waterproof. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the third layer (polysulfone) of Maples' article with the water-insoluble, cross-linked sulfonated aromatic polyamide of Kershner et al. in order to create make the protective article of Kershner et al. waterproof.

e. Claims 2-4, 30, 31, 54 and 55 are rejected as the invention of the applied patent may be used as blankets, tents, sleeping bags, sacks, footwear, gloves, garments and the like ('383 col. 6, lines 29-32).

f. Claims 5 and 27 are rejected as the '383 invention allows for the incorporation of additional layers to the protective covering article including various textiles, felts, films, membranes, scrims, leathers and the like (col. 12, lines 4-10).

g. Claims 6 and 29 are rejected as fabric laminate may comprise multiple layers of polyamide, cellulosic, polyester, and polyurethane ('383 col. 7, lines 37-62). Figure 19 of the '383 patent demonstrates the use of multiple layers of fabric (col. 12, lines 24-28).

h. The sulfonated aromatic polymer is a polyamide. Claims 16 and 17 are rejected as the aromatic polymer has linkages from ketones (col. 3, lines 15-20) and have aryl substitutions (claim 1 '916).

i. Claims 18 and 19 are rejected as the sulfonated aromatic polyamide of '916 is ionically cross-linked. Claim 20 is rejected as the polyamine polymer layer may also contain cross-linking agents, acidic species and/or additional processing and performance aids (col. 10, lines 40-45).

j. Claims 21 and 36 are rejected as the polyamine polymer will be made to form a selectively permeable sheet or layer, which in some embodiments, may be part of a composite sheet with at least one water vapor permeable substrate ('383 col. 10, lines 12-15). The '383 patent teaches the polyamine polymer composite sheet with open pore expanded PTFE substrates ('383 claim 10). Claim 22 is rejected.

k. Claims 28, 40, 44 and 64 are rejected as laminate arrangements may consist of arrangements of polyimide layers combined with one or more additional fabric layers ('383 col. 12, lines 44-48).

l. Claims 37-39 and 60-63 are rejected as the polyimide polymer may be made to imbibe into a substrate or substrates such that the polymer fills the voids within a substrate either wholly or partially ('383 col. 11, lines 55-63). The applied patent teaches the polyimide polymer composite sheet with open pore expanded PTFE substrates ('383 claim 10).

m. Although Maples nor Kershner et al. explicitly teach the claimed bis-2-chloroethyl sulfide or pinacolyl methylphosphono fluoridate have a permeability over a 20-hour period, it is reasonable to presume that said properties are inherent to their combined product. Support for said presumption is found in the use of like materials (i.e. chemical protective coverings made of aromatic sulfonated polymers). The burden is

upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed properties would obviously have been present one the combined article of Maples and Kershner is provided. Note *In re Best*, 195 USPQ at 433, footnote (CCPA 1977) as to the providing of this rejection made above under 35 USC 102.

Double Patenting

3. Claims 1-68 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16, 18-47 and 49-51 of copending Application No. 10/818,214. Although the conflicting claims are not identical, they are not patentably distinct from each other because both articles are directed to protective composites made of aromatic sulfonated polymers.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

4. Applicant's arguments filed 11/16/2006 have been fully considered but they are not persuasive.

5. Applicant argues that Examiner has failed to set forth a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. Examiner has provided the technical reasoning to support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. Maples teaches a selectively permeable article with a layer comprising a polyamine polymer with amine-acid moieties specifically involving H_2SO_4 (col. 4, lines 57-65). The reference teaches the use of sulfonated

polymers, but fails to teach aromatic sulfonated polymers. Kershner et al. teach the use of sulfonated aromatic polyamides with pendant groups comprising sulfonic acid groups in anionic form (col. 6, lines 36-43), which may be ionically cross-linked (col. 9, lines 26-31). The technical reasoning is based upon the fact that Kershner et al. teach the use of sulfonated aromatic polyamides with pendant groups comprising sulfonic acid groups in anionic form for the same purpose as Applicant (selective permeability). The applied reference teaches all of the claimed limitations of the sulfonated aromatic polymer except for its sulfonic acid equivalent weight, and this limitation has been addressed in the rejection *supra*. Reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner,* et al. (CCPA) 186 USPQ 80.

6. Applicant argues that due to the numerous decisions and problems, which may be faced in practicing the Kershner et al. invention, it is evident that undue experimentation would be required in attempting to practice said invention. Applicant further alleges that these decisions along with those encountered with modifying the invention of Maples with the coating of Kershner et al. is not a matter of optimization. The issues set forth in Kershner et al. are typical in the creation of a novel polymer and to arrive at the instantly claimed sulfonic acid equivalent weight would only require routine experimentation, due to the similarities between the inventions of Kershner and Applicant (i.e. intended use of selective gas permeability and chemical composition and structure).

7. Applicant argues that there is no motivation to have made the invention of Maples waterproof. The field of personal garments and outdoor articles is replete with waterproof and

breathable articles. Therefore it would have been obvious to one of ordinary skill in the art to have modified the protective article of Maples to also be waterproof.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Matzek whose telephone number is (571) 272-2423. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mdm MDM

Norca L. Torres-Velazquez
Primary Examiner
Art Unit 1771

2/9/07